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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
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10/548,684

09/08/2005

Munco Ishida

ADACHI P262USP1

2471

20210 7590 02/28/2007  
DAVIS & BUJOLD, P.L.L.C.  
112 PLEASANT STREET  
CONCORD, NH 03301

EXAMINER

QIN, JIANCHUN

ART UNIT

PAPER NUMBER

2837

SHORTENED STATUTORY PERIOD OF RESPONSE	MAIL DATE	DELIVERY MODE
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3 MONTHS

02/28/2007

PAPER

**Please find below and/or attached an Office communication concerning this application or proceeding.**

If NO period for reply is specified above, the maximum statutory period will apply and will expire 6 MONTHS from the mailing date of this communication.

**Office Action Summary**

Application No.

10/548,684

Applicant(s)

ISHIDA ET AL.

Examiner

Jianchun Qin

Art Unit

2837

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

**Period for Reply**

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

**Status**

- 1) ☐ Responsive to communication(s) filed on \_\_\_\_.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

**Disposition of Claims**

- 4) ☒ Claim(s) 12-22 is/are pending in the application.
- 4a) Of the above claim(s) \_\_\_\_ is/are withdrawn from consideration.
- 5) ☐ Claim(s) \_\_\_\_ is/are allowed.
- 6) ☒ Claim(s) 12-16 and 18-22 is/are rejected.
- 7) ☒ Claim(s) 17 is/are objected to.
- 8) ☐ Claim(s) \_\_\_\_ are subject to restriction and/or election requirement.

**Application Papers**

- 9) ☒ The specification is objected to by the Examiner.
- 10) ☒ The drawing(s) filed on 08 September 2005 is/are: a) ☐ accepted or b) ☒ objected to by the Examiner.
- Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
- Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

**Priority under 35 U.S.C. § 119**

- 12) ☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☒ All b) ☐ Some \* c) ☐ None of:
1. ☒ Certified copies of the priority documents have been received.
  2. ☐ Certified copies of the priority documents have been received in Application No. \_\_\_\_.
  3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

\* See the attached detailed Office action for a list of the certified copies not received.

**Attachment(s)**

- |  |   |
|--|---|
| 1) <input checked="" type="checkbox"/> Notice of References Cited (PTO-892)            | 4) <input type="checkbox"/> Interview Summary (PTO-413)           |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948)   | Paper No(s)/Mail Date. ____                                       |
| 3) <input checked="" type="checkbox"/> Information Disclosure Statement(s) (PTO/SB/08) | 5) <input type="checkbox"/> Notice of Informal Patent Application |
| Paper No(s)/Mail Date <u>9/8/05</u> .  | 6) <input type="checkbox"/> Other: ____                           |

## **DETAILED ACTION**

### ***Specification***

1. The specification is objected to because of the following informalities:

Specification (page 35, paragraph 0103) recites: the undersurface of the rail 93 is curved upward toward right side, i.e., toward the direction opposite to the player side (left side in Fig. 6). On the other hand, in Fig. 6, the undersurface of the rail 93, on which felt 97 is provided, is curved upward toward left side, i.e., toward the direction to the player side. Please advise.

### ***Drawing***

2. The drawings are objected to because Figs. 6 and 7 do not match with the specification. Specifically, specification (page 35, paragraph 0103) recites: the undersurface of the rail 93 is curved upward toward right side, i.e., toward the direction opposite to the player side (left side in Fig. 6). On the other hand, in Fig. 6, the undersurface of the rail 93, on which felt 97 is provided, is curved upward toward left side, i.e., toward the direction to the player side.

A proposed drawing correction or corrected drawings are required in reply to the Office action to avoid abandonment of the application. The objection to the drawings will not be held in abeyance.

### ***Rejections - 35 USC § 112***

3. The following is a quotation of the first paragraph of 35 U.S.C. 112:

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The specification shall contain a written description of the invention, and of the manner and process of making and using it, in such full, clear, concise, and exact terms as to enable any person skilled in the art to which it pertains, or with which it is most nearly connected, to make and use the same and shall set forth the best mode contemplated by the inventor of carrying out his invention.

4. Claim 20 is rejected under 35 U.S.C. 112, first paragraph, as containing subject matter which was not described in the specification in such a way as to reasonably convey to one skilled in the relevant art that the inventor(s), at the time the application was filed, had possession of the claimed invention.

Specification (page 35, paragraph 0103) recites: the undersurface of the rail 93 is curved upward toward right side, i.e., toward the direction opposite to the player side (left side in Fig. 6). On the other hand, in Fig. 6, the undersurface of the rail 93, on which felt 97 is provided, is curved upward toward left side, i.e., toward the direction to the player side.

### ***Double Patenting***

5. A rejection based on double patenting of the "same invention" type finds its support in the language of 35 U.S.C. 101 which states that "whoever invents or discovers any new and useful process ... may obtain a patent therefor ..." (Emphasis added). Thus, the term "same invention," in this context, means an invention drawn to identical subject matter. See *Miller v. Eagle Mfg. Co.*, 151 U.S. 186 (1894); *In re Ockert*, 245 F.2d 467, 114 USPQ 330 (CCPA 1957); and *In re Vogel*, 422 F.2d 438, 164 USPQ 619 (CCPA 1970).

A statutory type (35 U.S.C. 101) double patenting rejection can be overcome by canceling or amending the conflicting claims so they are no longer coextensive in scope. The filing of a terminal disclaimer cannot overcome a double patenting rejection based upon 35 U.S.C. 101.

6. Claims 12, 15 and 16 are rejected under 35 U.S.C. 101 as claiming the same

invention as that of claims 1 and 2 of prior U.S. Patent No. 7,145,062.

7. Claims 12 and 18 are rejected under 35 U.S.C. 101 as claiming the same invention as that of claim 3 of prior U.S. Patent No. 7,145,062.

***Claim Rejections - 35 USC § 102***

8. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

9. Claims 12 and 13 are rejected under 35 U.S.C. 102(b) as being anticipated by Tamai et al. (U.S. Pat. No. 5406875).

With respect to claim 12, Tamai et al. (Figs. 9 and 10) disclose a string-striking device of a piano, comprising a long weight lever (8), one for every key, which is disposed along the length direction of the key at an upper part of the key on the side opposite to the playing side (Fig. 9) and which is arranged such that one end of the weight lever is fixed to a piano body (38, 15) so as to allow the weight lever to freely swing up and down (Fig. 10; col. 9, lines 18-29), and the other open end, which can be vertically displaced, is brought into contact with the upper surface of the key and applies its own weight on the key (Fig. 10, col. 9, lines 18-23 and 62-65).

With respect to claim 13, the disclosure of Tamai et al. further includes: a long stopper rail (17) that is secured to the piano body above the weight lever so that the

stop rail extends over a plurality of weight levers and restricts the upward swing of the plurality of weight levers (Fig. 10; col. 10, lines 41-48).

***Claim Rejections - 35 USC § 103***

10. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

11. Claims 14, 20 and 22 are rejected under 35 U.S.C. 103(a) as being unpatentable over Tamai et al.

With respect to claim 14, Tamai et al. do not mention expressly: a moving mechanism that moves the weight lever in the length direction of the key.

In view of the teaching of Tamai et al. (col. 5, lines 6-26), however, it would have been obvious to one having ordinary skill in the art at the time the invention was made to adjust the position of the weight lever in the length direction of the key, since it has been held that the provision of adjustability, where needed, involves only routine skill in the art. *In re Stevens*, 101 USPQ 284 (CCPA 1954).

With respect to claim 20, Tamai et al. (Figs. 9 and 10) teach a string-striking device of a piano, comprising a long weight lever (8), one for every key, which is disposed along the length direction of the key at an upper part of the key on the side opposite to the playing side (Fig. 9) and which is arranged such that one end of the

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weight lever is fixed to a piano body (38, 15) so as to allow the weight lever to freely swing up and down (Fig. 10; col. 9, lines 18-29), and the other open end, which can be vertically displaced, is brought into contact with the upper surface of the key and applies its own weight on the key (Fig. 10, col. 9, lines 18-23 and 62-65); a weight lever stabilizing rail (17) that is secured to the piano body above the weight lever so as to extend over a plurality of weight levers and restricts upward swing of the plurality of weight levers (Fig. 10; col. 10, lines 41-48), the weight lever stabilizing rail (17) being formed in such a manner that an undersurface thereof is curved upward toward a direction to the playing side of the piano (Figs. 10 and 14).

Tamai et al. do not mention expressly: a moving mechanism that moves the weight lever along the length direction of the key.

In view of the teaching of Tamai et al. (col. 5, lines 6-26), however, it would have been obvious to one having ordinary skill in the art at the time the invention was made to adjust the position of the weight lever in the length direction of the key, since it has been held that the provision of adjustability, where needed, involves only routine skill in the art. *In re Stevens*, 101 USPQ 284 (CCPA 1954).

With respect to claim 22, Tamai et al. further teach: a sound-deadening material (44b) is applied to the undersurface of the weight lever stabilizing rail (col. 10, lines 44-48).

12. Claims 19 and 21 are rejected under 35 U.S.C. 103(a) as being unpatentable over Tamai et al. in view of Levinson (U. S. Pat. No. 4685371).

With respect to claim 19, Tamai et al. do not mention expressly: wherein a lever receiving screw is provided on a surface of the key facing the weight lever while a frictional reducing layer is provided on an undersurface of the weight lever facing the lever receiving screw, the friction reducing layer being made from a material that allows a frictional force between the lever receiving screw and the weight lever to be smaller than the frictional force produced by direct contact therebetween, and the friction reducing layer is made from a material that allows the frictional force to be smaller as the friction reducing layer is provided closer to a rotation shaft which is a center of swing of the weight lever.

Levinson teaches a grand piano action (Fig. 1), including: a lever receiving screw (30) which is provided on a surface of the key (12) facing a weight lever (32) while a frictional reducing layer (34) is provided on an undersurface of the weight lever facing the lever receiving screw (Fig. 1; col. 3, lines 31-37), the friction reducing layer being made from a material that allows a frictional force between the lever receiving screw and the weight lever to be smaller than the frictional force produced by direct contact therebetween, and the friction reducing layer is made from a material that allows the frictional force to be smaller as the friction reducing layer is provided closer to a rotation shaft which is a center of swing of the weight lever (col. 3, lines 34-37; and col. 5, lines 50-66).

It would have been obvious to one having ordinary skill in the art at the time the invention was made to modify the invention of Tamai et al. by substituting a capstan screw for Tamai's projection 39, as taught by Levinson, in order to provide a more



effective and robust mechanism for receiving the function of force due to swinging of each key (Levinson, col. 3, lines 31-37)

With respect to claim 21, Tamai et al. do not mention expressly: wherein a lever receiving screw is set at a position on the upper surface of each key where the weight of the weight lever can be supported in any way even if the weight lever is moved by the moving mechanism.

Levinson teaches a grand piano action (Fig. 1), including: a lever receiving screw (30), said screw is set at a position on the upper surface of each key (12) where the weight of a weight lever (32) can be supported (Fig. 1; col. 3, lines 31-37).

It would have been obvious to one having ordinary skill in the art at the time the invention was made to modify the invention of Tamai et al. by substituting a capstan screw for Tamai's projection 39, as taught by Levinson, in order to provide a more effective and robust mechanism for receiving the function of force due to swinging of each key (Levinson, col. 3, lines 31-37)

Tamai et al. in view of Levinson do not mention expressly: a moving mechanism that moves said weight lever and said lever receiving screw along the length direction of the key; and the weight of the weight lever can be supported in any way even if the weight lever is moved by the moving mechanism.

In view of the teaching of Levinson, however, it would have been obvious to one having ordinary skill in the art at the time the invention was made to adjust the positions of both the weight lever and the capstan screw in the length direction of the key such that the weight of the weight lever can be supported in any way even if the weight lever

is moved, since it has been held that the provision of adjustability, where needed, involves only routine skill in the art. *In re Stevens*, 101 USPQ 284 (CCPA 1954).

***Allowable Subject Matter***

13. Claim 17 is objected to as being dependent upon a rejected base claim, but would be allowable if rewritten in independent form including all of the limitations of the base claim and any intervening claims.

***Reasons for Allowance***

14. The following is a statement of reasons for the indication of allowable subject matter:

The primary reason for the allowance of claim 17 is the inclusion of the limitation of a long lifting rail that is disposed between the weight lever and the key, so that the lifting rail extends over a plurality of keys and is fixed to the piano body in such a manner that, by lifting the weight levers, the lifting rail can displace the weight levers from a normal position where the levers can touch the keys to a holding position where the levers are separated from the keys. It is this limitation found in the claim, as it is claimed in the combination that has not been found, taught or suggested by the prior art of record, which makes this claim allowable over the prior art.

**Contact Information**

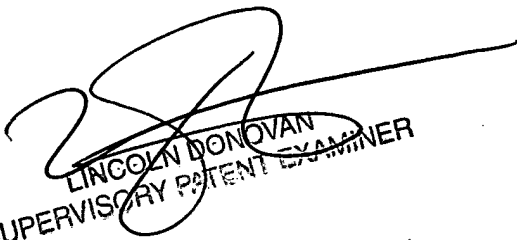
15. Any inquiry concerning this communication or earlier communications from the examiner should be directed to Jianchun Qin whose telephone number is (571) 272-5981. The examiner can normally be reached on 8am - 5:30pm.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Lincoln Donovan can be reached on (571) 272-1988. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

Jianchun Qin  
Examiner  
Art Unit 2837

JQ



LINCOLN DONOVAN  
SUPERVISORY PATENT EXAMINER